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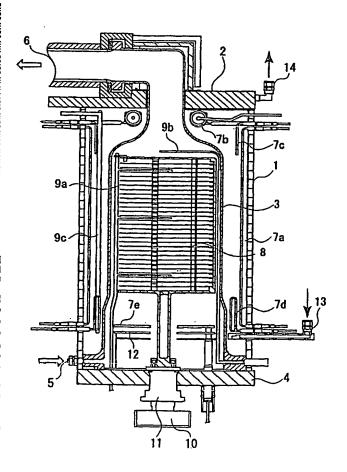
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(54) Title: HEAT TREATMENT APPARATUS

(54) 発明の名称: 熱処理装置



(57) Abstract: A heat treatment apparatus comprises a heating furnace main body having an opening portion in the upper end, a reaction tube formed of a single tube received inside the heating furnace main body, gas exhaust means connection portion shaped in a reduced diameter form at the upper portion of the reaction tube, a to-be-processed substrate support member for supporting a substrate to be processed, and heating means for heating a substrate to be processed supported by the to-be-processed substrate support member. The heating means has first heating portions arranged around the reaction tube, second heating portions arranged around the gas exhaust means connection portion, third heating portion circumferentially arranged above the reaction tube, fourth heating portions circumferentially arranged below the lower portion of the reaction tube, and a fifth heating portion provided under the to-be-processed substrate support member.

ABSTRACT

The present invention is a thermal processing unit including: a heating-furnace body whose upper end has an opening; a reaction tube consisting of a single tube contained in the heating-furnace body; a gas-discharging-unit connecting portion formed at an upper portion of the reaction tube, the gas-discharging-unit connecting portion having a narrow diameter; a substrate-to-be-processed supporting member for supporting a substrate to be processed, contained in the heating-furnace body; and a heating unit for heating the substrate to be processed supported by the substrate-to-be-processed supporting member. The heating unit has: a first heating portion arranged around the reaction tube, a second heating portion arranged around the gas-discharging-unit connecting portion, a third heating portion arranged around an upper portion of the reaction tube, a fourth heating portion arranged around a lower portion of the reaction tube, and a fifth heating portion arranged under the substrate-to-be-processed supporting member.